



GLOBAL CHALLENGES: ACHIEVING SUSTAINABILITY



SUSTAINABILITY SCIENCE CONGRESS

BY THE INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

OCTOBER 22-24, 2014
COPENHAGEN, DENMARK

Preliminary programme

Opening session

- Connie Hedegaard, EU Climate Commissioner
- Katherine Richardson, Prof., Chair of the Scientific Steering Committee
- Representatives of the International Alliance of Research Universities
- And more

Plenary speakers

Johan Rockström	World development on a stable planet: The scientific quest for a safe operating space within planetary boundaries
Shiyi Chen	Carbon abatement, environment regulations and economic sustainable development in China
Jane Lubchenco	Ocean biodiversity, threats and prioritised solutions
Adil Najam	Climate, development and security in the age of adaptation
Kazuhiko Takeuchi	Education and capacity building for a sustain able future
Tony Simons	Sustainable land use in a changing world: Evolving goals, decisions and metrics
Lindiwe Sibanda	Feeding 9 billion – challenges seen through African eyes
Julian Agyeman	Just sustainabilities: Re-imagining e/quality, living within limits
Nina Fedoroff	Innovations in arid land food production systems
Jose Campos	Smart climate territories

15 theme sessions

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Closing panel discussion: How do we move forward?

- Guido Schmidt-Traub, Executive Director of the UN Sustainable Development Solutions Network
- Peter Bakker, President, World Business Council for Sustainable Development (WBCSD)
- Rasmus Helveg Petersen, Danish minister for Climate, Energy and Building
- Daniel Kammen, Distinguished Professor of Energy at the University of California, Berkeley
- And more



Global Challenges: Achieving Sustainability

Sustainability Science Congress
October 22-24, 2014, Copenhagen, Denmark

Bring your expertise to the forefront when scientists from more than 50 countries discuss global challenges and sustainable solutions. The International Alliance of Research Universities invites experts from across disciplines to create a stronger response to the societal need for sustainable solutions. Join in for the latest insight on fundamental issues for sustainable development.

Register now

Standard fee until August 31

Late fee until October 8

15 theme sessions

The congress will host parallel sessions with a focus on integrating participants from several disciplines. This unique setup will offer a stimulating environment for discussing the latest results in specific topics as well as engaging in a broader collaboration for sustainable solutions.

Moving from “climate” to “sustainability”

Solutions to climate change focus on energy systems, but sustainability requires us to consider more diverse aspects of our societies. The session explores transferable knowledge from the climate change challenge to sustainable development. Talks include:

- Can carbon footprint be an acceptable indicator of environmental sustainability? **by Alexis Laurent**
- Adapting climate change in least developed countries: Demonstrating Nepal from sustainability perspective **by Dipak Bishwokarma**

Feeding future generations with limited resources

Exploring how food system activities, such as transport, processing, packaging and consuming food, in addition to food production can be modified to enhance food security while limiting further GHG emissions and other aspects of environmental degradation. Talks include:

- The need for Ecosystem-based Adaptation to achieve food security and build resilience to climate change in Africa **by Richard Munang**
- Food beyond the farm gate: Environmental change, adaptation and mitigation **by Sonja Vermeulen**

Water for all

Addressing how to meet direct human needs for water while preserving ecosystem function. The session examines this in local or regional contexts with the goal of identifying transferable solutions and concepts. Talks include:

- Risk management framework of global changes on water for human well-being **by Taikan Oki**
- California dreaming: Natural systems as urban water infrastructure **by David Sedlak**

Putting biodiversity concerns into operation

Session on the status and trends of biodiversity globally, the link between ecosystem services provision and biodiversity and the position of biodiversity within the forthcoming Sustainable Development Goals. Talks include:

- Biodiversity and ecosystem services: Evidence for a link **by Taylor Ricketts**
- Tracking our own decline – current biodiversity indicators do not capture global ecosystem risks **by Sarah Cornell**

Governance in light of planetary boundaries

By integrating social science and Earth system science the session explores if the notion “planetary boundaries” ignites political conflicts and how social actors perceive and respond to “thresholds” in biophysical systems. Talks include:

- Transformative policy pathways to decarbonisation **by Matthew Hoffman**
- Sustainability roundtables in agriculture, food and energy: Outcomes, challenges and long-term prospects **by Stefano Ponte**

Transitioning to new types of economic growth

The session explores economies under scenarios of comprehensive change. It will look beyond global modelling exercises, to regional and national studies of economic structure and growth. An anchor point will be deep decarbonisation. Talks include:

- Transitioning sustainable economies to achieve deep cut of GHG emissions in Japan **by Mikiko Kainuma**
- Deep decarbonisation scenario for France **by Patrick Criqui**

Reconciling world views on the human-earth relationship

Exploring socio-culturally driven behaviour and perceptions, e.g. if the various perceptions of the relationship between humans and the Earth system can be reconciled or transformed to support earth stewardship. Talks include:

- Why we need to rewrite the narrative of humanity: From conceptualising the biosphere as resource to seeing it as the context of our being **by Anders Frøsløv Jensen**
- Indigenous knowledge as local response to globalisation and climate change in Africa **by Geoffrey Nwaka**

The multiple demands on biomass

The session addresses the global limits of biospheric production, the multiple future demands on plant production and whether several of these objectives are possible to achieve simultaneously. Talks include:

- Planetary boundaries related to the global human appropriation of net primary production **by Helmut Haberl**
- Competing demand for land for food, bioenergy, and environmental services **by Navin Ramankutty**

Urbanisation

Exploring the opportunities for efficient delivery of services, energy and material use, and fostering innovation and creativity through urbanisation. Talks include:

- The challenge of explosive global urbanisation: Achieving sustainable development through innovation and cross learning **by Luis Bettencourt**
- Governing cities for low carbon transitions? **by Harriet Bulkeley**

From knowledge to action

Session with a focus on specific measures for triggering action in the area of climate mitigation and adaptation based on best available scientific insights. Talks include:

- Inside the greenhouse: Utilizing media to creatively communicate climate challenges **by Maxwell Boykoff**
- Regulating carbon effectively - the case of the EU - US trade relations **by Laura Nielsen**

Elucidating sustainability-health interactions

Elaborating the relationship between health and environment both in terms of conflicts such as resource use for increased wellbeing and win-win situations such as clean energy and healthier environments. Talks include:

- Sustainability and global health: Why we must recognise and reverse “environmental brinkmanship” **by Colin Butler**
- Healthy and sustainable urban development: Is intensification a good balance? **by Pengjun Zhao**

Education in sustainability

The session explores the challenges that education for sustainability presents to tertiary education institutions, including approaches to interdisciplinary research led learning. Talks include:

- The MetaUniversity: Educating the solutions generation **by Robert Costanza**
- Designing spaces and processes for better leveraging global disciplinary fields of knowledge to address local complex problems **by Ariane König**

Energy in a resource constrained economy

Looking into strategies and policies that can best promote the transition to alternative energy forms and the wider sets of changes in society that an energy transition will bring about. Talks include:

- Is Germany's energy transition a case of successful green industrial policy? **by Anna Pegels**
- New tools to evaluate the land, water, and air quality impacts of energy futures: Application to Western North America **by Tessa Eve Beach**

Sustainable nutrient management in the Anthropocene

The session puts the global cycles of nutrient elements in the spotlight, highlighting challenges and opportunities for sustainable management of phosphorus and nitrogen. Talks include:

- Meeting multiple environmental targets for nitrogen with implications for global crop production **by Sybil Seitzinger**
- Governance of sustainability innovation through stakeholder platforms: Global initiatives for managing phosphorus within the Planetary Boundary **by Masaru Yarime**

Social equity, development and global environment

Session illustrating how global and national economic inequities affect the global environment and looking ahead towards innovative, alternative solutions and reforms capable of tackling the ecological crises and world inequities at the same time. Talks include:

- Cancel the Apocalypse - New pathways to prosperity **by Andrew Simms**
- Caste as a driver of environmental change in India **by Alfred Gathorne-Hardy**

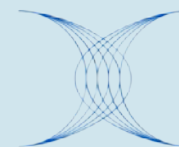


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